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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ALASKA

In re Crash of Aircraft N93PC)	No. 3:15-cv-0112-HRH
)	[Consolidated with
on July 7, 2013, at Soldotna, Alaska)	No. 3:15-cv-0113-HRH and
_____)	No. 3:15-cv-0115-HRH]

ORDER

RAC's Motion in Limine No. 1

Recon Air Corporation moves to preclude plaintiffs' expert witnesses from testifying about airworthiness directives issued by the FAA and Transport Canada and FMS #4, which is a flight manual supplement issued by Stolairus.¹ This motion is joined by Texas Turbine Conversions, Inc.² This motion is opposed.³ Recon Air has withdrawn its request for oral argument,⁴ and the court deems oral argument unnecessary.

Background

On July 7, 2013, a deHavilland DHC-3 "Otter" airplane operated by Rediske Air, Inc. and piloted by Walter Rediske crashed shortly after take-off from the Soldotna Airport.

¹Docket No. 208.

²Docket No. 210.

³Docket No. 269.

⁴Docket No. 358.

Rediske and all of the passengers on board were killed in the crash. Plaintiffs, which are the estates of the passengers, assert wrongful death, negligence, strict liability and breach of warranty claims against Recon Air. Recon Air is a Transport Canada certified installation facility.

The subject aircraft was modified in 2010. The modifications were approved under Supplemental Type Certificates (STCs) and included a Texas Turbine Engine Conversion and a Baron Short Takeoff & Landing (STOL) kit. The engine conversion included the installation of a Honeywell TPE331 turbine engine. Recon Air installed both the engine and the Baron STOL Kit.

The STC for the Baron STOL kit provided that “[p]rior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.”⁵ Recon Air does not dispute that it was “required to determine the compatibility of the STOL Kit and the Texas Turbine conversion during installation.”⁶

In GATX/Airlog Co. v. United States, 286 F.3d 1168, 1171 (9th Cir. 2002) (citations omitted), the Ninth Circuit described and summarized the process by which the FAA develops STCs and airworthiness directives (ADs):

⁵Exhibit G at 1, Plaintiffs’ Opposition to Recon Air Corporation’s Motion in Limine No. 1, Docket No. 269.

⁶Reply to Plaintiffs’ Opposition to RAC’s Motion in Limine No. 1 at 1, Docket No. 290.

[T]he FAA has prescribed a comprehensive set of rules and regulations, including a multi-step certification process, for aircraft design and production. . . . Three aspects of the design certification process are relevant here: the type certificate, supplemental type certificate, and airworthiness directive.

The first stage of this process is type certification, in which airplane manufacturers seek approval of new aircraft designs. Under federal regulations, aircraft manufacturers must analyze and test their new aircraft designs. Based on the resulting engineering and test data, the FAA then determines the airworthiness of those designs. If the manufacturer demonstrates that the design complies with federal regulations, the FAA issues a type certificate. In most instances, the type certificate covers an aircraft model, rather than an individual airplane.

Any major change to an FAA-approved design then requires additional certification in the form of a supplemental type certificate, also known as an STC. By issuing an STC, the FAA approves a modification to a previously-certified aircraft design. STCs are obtained through the same process as type certificates: the applicant must provide the FAA with sufficient engineering and test data to demonstrate compliance with federal regulations.

After issuing a type certificate or STC, the FAA continues to monitor the safety of the certified aircraft. The FAA may amend, modify, suspend or revoke a certificate for airworthiness reasons. Such an order takes the form of an airworthiness directive and may require the aircraft owner to alter the aircraft to maintain its certification. After the FAA issues an airworthiness directive, the particular aircraft may only be operated in compliance with that directive.

More specifically, “[t]he FAA issues an airworthiness directive addressing a product when [it] find[s] that: (a) An unsafe condition exists in the product; and (b) The condition is likely to exist or develop in other products of the same type design.” 14. C.F.R. § 39.5. The process followed by Transport Canada to issue STCs and ADs is presumed to be similar.

After the accident, in March 2014, the FAA sent two safety recommendations (SRs) to Transport Canada:

13.239 - The Baron STOL Kit Flight Manual Supplement states there is no change in weight and balance with regard to the aft center of gravity.^[7] Transport Canada states the center of gravity as tested was 138.1 - 148, this does not correspond to the original certificated [C.] G. range with DeHavilland Mod 3/746 installed for a landplane, aft limit 152.2.^[8] A determination should be made as to what the correct aft center of gravity should be with a Baron STOL kit installed on a landplane, ski plane and float plane.

13.240 - The flight stall characteristics should be observed with the Baron STOL kit to see if the kit meets the requirements of what DeHavilland was trying to prevent with the inboard stall strips, adverse stall characteristics with an aft center of gravity.^[9]

Transport Canada investigated the SRs. During its investigation, it learned that

flight testing was carried out on August 19, 1994 by TCCA [Transport Canada] test pilot Mr. Leo Galvin in a DHC-3 Otter on EDO 7170 floats with the Baron STOL kit installed. The modified aircraft was test flown at a forward take-off CG of 138.2" and an aft take-off CG of 145". Mr. Galvin recommended approval of the STOL kit upon flight test completion without further CG restrictions. It is likely that Mr. Galvin had, with his considerable knowledge and experiencing flying the

⁷The center of gravity is "[t]he point at which an airplane would be balanced if suspended." FAA Weight and Balance Handbook, Exhibit A at 3, Plaintiffs' Opposition to Recon Air Corporation's Motion in Limine No. 1, Docket No. 269. CG limits are "[t]he extreme CG locations within which an aircraft must be operated at a given weight." Id.

⁸The Baron STOL kit was originally certificated in 1994.

⁹Exhibit F at 1, Plaintiffs' Opposition to Recon Air Corporation's Motion in Limine No. 1, Docket No 269.

DHC-3 Otter, deemed the floatplane to be the critical configuration relative to the landplane and skiplane, and that further testing of the latter configurations [was] unnecessary.^[10]

But, by February 2015, a Transport Canada representative noted that “[w]e still don’t have flight test data supporting the published CG limits for the Baseline Aircraft equipped with the Baron [STOL] Kit” and that “[t]here is still confusion as to which published CG limit is applicable to the Baseline Aircraft equipped with the Baron [STOL] Kit. . . .”¹¹

In a letter dated September 8, 2016, Transport Canada finally responded to the SRs:

The Baron STOL kit modification on the DHC-3 aircraft is an approved modification under TCCA STC number SA94-114 and FAA STC number SA00287NY. Both the TCCA and FAA STCs were originally issued to AOG Air Support Inc. . . . Each STC refers to AOG Drawing Number AOG-02-001, New issue, dated 07/06/04 for installation requirements and require TCCA approved AOG Flight Manual Supplement No. 4, Revision 1, dated September 29, 1994 or Revision 2, dated August 18, 2005 (or later TCCA approved revisions) for aircraft operating limitations.

On May 04, 2007, TCCA STC # SA94-114 was transferred to the new STC holder, Stolairus Aviation. . . . It is noted however that the FAA ST SA00287NY is still shown as issued to AOG.

In order to properly respond to [the FAA], TCCA requested from the current STC holder flight test data to substantiate that the CG limits were not changed by the embodiment of the Baron STOL kit STC.

¹⁰Transport Canada internal email (dated May 1, 2014), Exhibit 3 at 19, Memorandum in Support of RAC’s Motion in Limine No. 1, Docket No. 209.

¹¹Exhibit J at 1, Plaintiffs’ Opposition to Recon Air Corporation’s Motion in Limine No. 1, Docket No. 269.

The STC holder was not able to provide substantiating data to support the unchanged aft CG limit, nor did it carry out flight tests to establish a new aft CG limits. Instead, the STC holder has decided to restrict the aft CG limit to the most forward position identified on the aircraft's TCDS (The limit established for mod status without inboard stall strips installed). On May 28th 2015, the STC holder issued revision #3 to Stolairus Aviation Inc. Flight Manual Supplement #4 to revise the aft CG limits to 148.3 inches, regardless of aircraft confirmation (wheels, skis and or floats).

On January 21st, 2016, TCCA issued Canadian Airworthiness Directive CF-2016-05 mandating the use of the revised CG limits in revision 3 of the Stolairus Flight Manual Supplement. TCCA considers the corrective action taken to be an adequate response to the safety issues identified [by the FAA.¹²]

The background section of AD CF-2016-05 read:

The investigation of a fatal crash of a turbo-propeller powered DHC-3 aeroplane modified with a Baron STOL kit determined the probable cause as a rearward shift in the centre of gravity resulting in a stall during take-off.

This AD is issued to mandate revised centre of gravity limits in order to assure adequate stall margins in all phases of flight. A centre of gravity that is too far aft can contribute to a stall during takeoff and may result in loss of control of the aeroplane in other phases of flight.^[13]

¹²Exhibit 3 at 1-2, Memorandum in Support of RAC's Motion in Limine No. 1, Docket No. 209.

¹³Exhibit 5 at 1, Memorandum in Support of RAC's Motion in Limine No. 1, Docket No. 209.

The Stolairus Flight Manual Supplement (FMS #4) was revised to show that the aft CG limit was 148.3 inches.¹⁴

On May 27, 2016, the FAA issued AD FAA 2016-10-03.¹⁵ AD FAA 2016-10-03

was prompted by mandatory continuing airworthiness (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as an accident report that indicated that the center of gravity was too far aft and contributed to a stall during takeoff. We are issuing this AD to correct the center of gravity and prevent such a stall during takeoff and loss of control during other phases of flight.[¹⁶]

After Transport Canada became aware of some comments made about AD FAA 2016-10-03, it performed a subsequent investigation into its issuance of AD CF-2016-05. In March 2017, a Transport Canada employee noted:

According to the NTSB final report for the July, 2013 DHC-3 Crash in Soldotna AK that was the impetus for our CF-2016-05 and FAA AD 20[1]6-10-03[,] the accident occurred with the airplane weight exceeding the maximum gross weight of 8,000 lbs by about 21 lbs and the CG at least 5.5 inches aft of the 152.2-inch limit that was in place at the time. It was also noted that the takeoff occurred with full flaps, which exacerbated the situation. A flight test program that expands the CG envelope from 148.8 aft to 152.2 would therefore not appear to present an excessive amount of risk. From what I understand everyone

¹⁴Exhibit 4 at 2, Memorandum in Support of RAC's Motion in Limine No. 1, Docket No. 209.

¹⁵Exhibit 6, Memorandum in Support of RAC's Motion in Limine No. 1, Docket No. 209.

¹⁶Id. at 1.

operated with aft CG limits at max weight at 152.2 for 20 years with no issues.^[17]

In June 2017, Transport Canada issued a revision, AD CF-2016-05R1, which altered the background section to read:

The investigation of a fatal crash of a turbo-propeller powered DHC-3 aeroplane modified with a Baron STOL kit determined the probable cause of the accident as: “operation of the airplane outside of the weight and center of gravity limits contained in the airplane flight manual, which resulted in an aerodynamic stall.”

Revision 1 of this AD is issued to clarify the background section. The initial version of this AD was issued to mandate revised center of gravity limits that provide adequate stall margins in all phases of flight. A center of gravity position beyond the aft limits may contribute to a stall during takeoff and may also result in loss of control of the aeroplane in other phases of flight.^[18]

On September 22, 2018, flight testing was conducted on a DHC-3 Otter which had a Texas Turbine conversion and a Baron STOL kit.¹⁹ “Four flights were flown totaling 3.1 hours, at or above a maximum gross weight of 8,000 pounds with the center of gravity varying progressively aft from approximately 146 inches to the former aft limit of 152.2 aft

¹⁷Email from Ross McGowan to Philip Tang and others, Exhibit 8 at 3, Memorandum in Support of RAC’s Motion in Limine No. 1, Docket No. 209.

¹⁸Exhibit 9 at 1, Memorandum in Support of RAC’s Motion in Limine No. 1, Docket No. 209.

¹⁹Exhibit 10, Memorandum in Support of RAC’s Motion in Limine No. 1, Docket No. 209.

of datum.”²⁰ “The flight test results were unremarkable and demonstrated the aircraft is easily flown with one hand in the landing configuration at or above maximum gross weight at a C.G. of 152.2 at any power setting.”²¹

One of the experts disclosed by plaintiffs is Colin Sommer. His expert report was disclosed on December 22, 2016. In that report, Sommer opined:

3. Installation of the STOL kit by Recon changed the center of gravity envelope for the aircraft. The aft of limits center of gravity during the subject flight was exacerbated by the STOL kit installation.^[22]

In the discussion section of his report, Sommer explained that “[f]ollowing [the] crash, Transport Canada issued Airworthiness Directive (AD) CF-2016-05, which revised the center of gravity limits for DHC-3 aircraft that have the Baron STOL kit installed” and that “[i]n conjunction with this AD, a new flight manual supplement [FMS #4] was issued by Stolairus Aviation Inc. and the aft CG limit was changed to 148.3 inches”²³ from the previous 152.2 inches.²⁴ Sommer further explained that

[t]he change in center of gravity limits, due to Recon’s installation of the STOL kit likely exacerbated the aft of limits CG

²⁰Id. at 2.

²¹Id.

²²Report of Findings at 21, Exhibit 3, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

²³Id. at 19.

²⁴Id. at 20.

configuration during the subject flight; which would have been unbeknownst to pilot Rediske. Recon failed to investigate and determine the change in the center of gravity envelope due to the installation of the STOL kit.^[25]

Recon Air now moves to exclude Sommer and any of plaintiffs' other experts from testifying about the airworthiness directives (ADs) and FMS #4 on the grounds that these documents are inadmissible.

Discussion

“Rule 401 defines relevant evidence as ‘evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.’” McCollough v. Johnson, Rodenburg & Lauinger, LLC, 637 F.3d 939, 953 (9th Cir. 2011) (quoting United States v. Curtin, 489 F.3d 935, 943 (9th Cir. 2007)). “If evidence is relevant, it is generally admissible under Federal Rule of Evidence 402.” Id. “However, relevant evidence must be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury.” Id. “‘Unfair prejudice . . . means an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one.’” Green v. Baca, 226 F.R.D. 624, 634 (C.D. Cal. 2005) (quoting United States v. Allen, 341 F.3d 870, 886 (9th Cir. 2003)).

²⁵Id.

First, Recon Air argues that the ADs and FMS #4 are irrelevant because they were issued after the accident and thus can have no bearing on the duties and obligations imposed on Recon Air in 2010. Recon Air explains that in order for an aircraft to be legally flown in the United States it must have a current airworthiness certificate. The accident aircraft was issued a U.S. Airworthiness Certificate in December 2010 and thus Recon Air argues that the directives and requirements in place at that time are what is relevant, not those that were put in place later.

Plaintiffs, however, argue that the ADs and FMS #4 are relevant. Plaintiffs contend that “[a]lthough in theory it is true an installer cannot adhere to something that doesn’t exist at the time of installation, this is not the issue.”²⁶ Rather, according to plaintiffs, the issue here is that an installer must determine the compatibility of its modifications, a requirement that is plainly set out in the STCs themselves. Plaintiffs contend that the ADs demonstrate that the STC for the Baron STOL kit was based on incorrect data and that the STC at the time of installation was defective. Thus, plaintiffs argue that it follows that if Recon Air had fulfilled its duty to ensure compatibility of the STCs, it would have discovered the defect in the Baron STOL kit STC. In short, plaintiffs argue that the ADs are relevant to show that an unsafe condition existed at the time the accident aircraft was modified and that if Recon

²⁶Plaintiffs’ Opposition to Recon Air Corporation’s Motion in Limine No. 1 at 10, Docket No. 269.

Air had fulfilled its duties as an installer (by flight testing, for example), it would have discovered this unsafe condition.

What plaintiffs seem to be arguing here is that there may have been an unsafe condition on the accident aircraft after the 2010 modifications were completed, an unsafe condition that Recon Air could have discovered if had done flight testing after the modifications. The ADs and FMS #4 relate to this issue and thus may be relevant.

But even if the ADs and FMS #4 are relevant, Recon Air argues that they should still be excluded because they are inadmissible hearsay.

“Hearsay” means a statement that:

- (1) the declarant does not make while testifying at the current trial or hearing; and
- (2) a party offers in evidence to prove the truth of the matter asserted in the statement.

FRE 801. Hearsay is not admissible unless an exception applies. FRE 802. Recon Air argues that there can be no dispute that the ADs are hearsay because plaintiffs are offering them to prove that the aft center of gravity limit of 152.2 inches was incorrect.

Plaintiffs disagree. Plaintiffs first argue that the ADs are not hearsay, or at least that the FAA AD is not hearsay, because they are “laws.” FAA ADs “are part of the Code of Federal Regulations” and “are legally enforceable rules. . . .” 14 C.F.R. §§ 39.3; 39.13. “Laws are not hearsay, because they are not assertions of anything.” Aubert v. Elijah, Case No. 1:07-cv-01629-LJO-GSA-PC, 2013 WL 5921859, at *2 (E.D. Cal. Oct. 31, 2013).

This argument fails. As the court in Aubert explained, “[a] law must be authenticated before being placed in evidence, because it must be established that it was the law at the relevant time. There should be no confusion for the jury if the law is properly authenticated and the only part of the law admitted is the relevant part” Id. at *3. If an AD is considered “a law”, as plaintiffs argue, there can be no doubt that the ADs in question were not “the law at the relevant time[,]” id., which is either 2010, the year in which the modifications were completed on the accident aircraft, or 2013, the year in which the accident occurred.

Plaintiffs next argue that the ADs and FMS #4 are admissible pursuant to Rule 803(8), Federal Rules of Evidence. Rule 803(8) provides that “[t]he following [is] not excluded” as hearsay:

A record or statement of a public office if:

(A) it sets out:

(i) the office’s activities;

(ii) a matter observed while under a legal duty to report, but not including, in a criminal case, a matter observed by law-enforcement personnel; or

(iii) in a civil case or against the government in a criminal case, factual findings from a legally authorized investigation; and

(B) the opponent does not show that the source of information or other circumstances indicate a lack of trustworthiness.

“Public records and reports falling under Rule 803(8)[] are presumed trustworthy, placing ‘the burden of establishing untrustworthiness on the opponent of the evidence.’” Montiel v. City of Los Angeles, 2 F.3d 335, 341 (9th Cir. 1993) (quoting Keith v. Volpe, 858 F.2d 467, 481 (9th Cir.1988)). Plaintiffs contend that Recon Air is arguing that the ADs and FMS #4 are not trustworthy because Transport Canada did not conduct any flight testing. But,

plaintiffs argue that this argument ignores the investigation that Transport Canada did after it received the SRs from the FAA, an investigation which involved engineers and aircraft certification specialists who reviewed and analyzed all the available data.²⁷ Plaintiffs also argue that it is disingenuous for Recon Air to suggest that Transport Canada should have done flight testing when Recon Air's entire ground for its motion for summary judgment is that it was not required to do flight testing after modifying the accident aircraft.

Some courts have admitted ADs under Rule 803(8). See, e.g., Melville v. Amer. Home Assur. Co., 584 F.2d 1306, 1316 (3rd Cir. 1978) (ADs admissible because "they pertain to classes of planes which are similar to the one which crashed in this case"). But other courts have excluded ADs due to a lack of trustworthiness. See, e.g., In re Air Crash Near Roselawn, Indiana, Case No. 5 C 4593, MDL 1070, 1997 WL 572896, at *1 (N.D. Ill. Sept. 10, 1997) (excluding "all post-accident government actions in this case, including the FAA Airworthiness Directives and Flight Safety Information Bulletins and the NTSB Safety Recommendations" because these reports "lack trustworthiness because each government agency involved in the post-accident investigation was subject to different agendas and fact-finding methodology which could undermine and confuse the jury's distinct function in this case"). Here, the evidence shows that Transport Canada issued its AD because Stolairus would not, or could not, provide any flight testing to substantiate an aft center of gravity limit

²⁷See Exhibit 3, Memorandum in Support of RAC's Motion in Limine No. 1, Docket No. 209.

of 152.2 inches, but that it did so without doing any of its own flight testing. In short, Transport Canada made the decision to issue an AD restricting the aft CG limit to the most forward position because it could not get any substantiating data from Stolairus. The FAA in turn issued its AD based on the Canadian AD. The evidence shows that the ADs and FMS #4 were not the products of a complete and thorough investigation, which makes their trustworthiness questionable. Moreover, the ADs and subsequent revision to FMS #4 can hardly be considered trustworthy in light of the 2018 flight testing that was done, which showed that an aft center of gravity limit of 152.2 inches was safe. Because they lack trustworthiness, the ADs and FMS #4 are not admissible under Rule 803(8).

But even if the ADs and FMS #4 were not inadmissible hearsay, which they are, they would still be subject to exclusion as they are overly prejudicial and would be misleading to the finder of fact. The probative value of these documents would be outweighed by the inherent risk that the jury would put undue weight on these documents because they were issued by government agencies. See, e.g., Martin v. Cavalier Hotel Corp., 48 F.3d 1343, 1357-58 (4th Cir. 1995) (affirming district court's exclusion of state agency report because of likelihood jury would place undue weight on it). In addition, these documents could mislead the finder of fact because while neither agency was tasked with investigating the accident and neither determined a probable cause of the accident, the ADs imply that the agencies determined a cause of the accident.

Conclusion

Recon Air's motion in limine No.1²⁸ is granted. The ADs and FMS #4 are excluded. Plaintiffs' experts are precluded from testifying about or relying on these documents.

DATED at Anchorage, Alaska, this 21st day of April, 2020.

/s/ H. Russel Holland
United States District Judge

²⁸Docket No. 208.